

Everyday Mathematics

Answers to Frequently Asked Questions

Q: Will my child learn and practice basic facts?

A: Absolutely. Your child will learn and practice all of the basic facts in many different ways. She will play mathematics games in which numbers are generated randomly by dice, dominoes, spinners, or cards. She will work with Fact Triangles, which present fact families and stress the addition/subtraction and multiplication/division relationships. In fourth grade, she will take timed “50-facts” multiplication tests that will require her to learn the facts she does not already know. She will have continuing access to Addition/Subtraction and Multiplication/Division Fact Tables that will serve both as references for the facts she does not yet know and as records of the facts she does. She will take part in short, oral drills to review facts with her classmates during transitional moments throughout the day. Also, there are many other activities and routines that will help your child increase and reinforce her knowledge of basic facts throughout the year.

Computation

Q: Does my child have opportunities to learn, develop, and practice computation skills?

A: Yes. Computational proficiency has always been, and will continue to be, an integral part of mathematics education. Your child gains the fact knowledge he needs for computation from basic facts practice. He solves problems in a meaningful way through number stories about real-life situations that require him to understand the need for computation, which operations to use, and how to use those operations. He often has the opportunity to develop and explain his own strategies for solving problems through algorithm invention. He practices mental arithmetic during Minute Math or 5-Minute Math. He also performs activities that encourage him to round or estimate numbers mentally.

Q: What exactly is algorithm invention? Why is it important for my child to invent her own?

A: An algorithm is a series of steps used to solve a problem. Algorithm invention means that your child creates and shares her own problem-solving methods before learning a set of prescribed standard algorithms. In other words, she becomes an active participant who must learn to think and reason about how to solve a problem rather than learning only to copy patterns. After the students have had plenty of opportunities to invent computational strategies, the teacher will discuss certain standard algorithms. There is no harm in giving a student a reliable algorithm if she becomes frustrated or resists the challenge of creating her own strategies. However, given a choice, most students do tend to prefer their own procedures. As your child invents her own algorithms, she begins to realize that she can reason about mathematics and solve problems in more than one way. She then becomes a motivated and independent problem-solver who is able to take risks, think logically, reason, create and extend ideas into new settings.

Q: How do you measure my child's progress? What can you show me that demonstrates what he has learned?

A: Your child will be given ample opportunities to demonstrate his mathematical understanding. Teachers frequently make written observations of students' progress as they watch students working on Math Boxes or slate activities. They also evaluate students' Minute Math responses, the interactions during group work or games, and their written responses to Math Messages. Unit reviews and assessment pages are used to evaluate individual student progress. This variety provides richer and more comprehensive information to use in reviewing and assessing students' progress. Instead of sending home traditional grade reports for mathematics, the teacher may show you a "rubric", a framework for tracking your child's progress. The rubric may be divided into categories describing different skill levels, such as Beginning, Developing, and Secure. Using these categories, the teacher indicates your child's skill in and understanding of a particular mathematical topic. The teacher can use this record of progress to decide which areas need further review and whether certain students need additional help or challenge. Mastery

Q: Why does my child have to move on to the next lesson if she hasn't mastered skills in the current lesson?

A: Mastery varies with each child and depends on her learning and problem-solving styles. Because people rarely master a new concept or skill after only one exposure, the program has a "spiral" design that informally introduces topics for two years before formal study. The "spiral" approach offers both consistent follow-up and a variety of experiences. If your child does not master a topic the first time it is introduced, she will have the opportunity to increase her understanding the next time it is presented. Your child will regularly review and practice concepts by playing content-specific games and by completing written exercises and assessments. Your classroom teacher can give you a list of skills your child is expected to master this year.

Q: Everyday Mathematics seems too difficult for my child. Will he be able to succeed in the program? How can the program address his individual needs?

A: If your child is having difficulty, continue to expose him to the program and give him a chance to meet its high expectations. Everyday Mathematics has many open-ended activities that will allow your child to succeed at his current skill level. While playing games, inventing algorithms, writing number stories, and solving problems in Minute Math and Math Boxes exercises, your child will develop his strengths and improve in his weak areas. Rest assured that he will receive repeated exposures to all concepts throughout the program. Furthermore, your child's teacher may group students to best suit their needs. For example, your child may be part of a small group working directly with the teacher or he may be paired with another student. The teacher may also modify or adjust program material according to student needs.

Q: Why does my child play games in class?

A: Everyday Mathematics games reinforce mathematics concepts in a valuable and enjoyable way. They are designed to help your child practice her basic facts and computation skills and develop increasingly sophisticated solution strategies. Games are not seen as tedious drill to the children. Games allow your child to carry play into serious practice of her number skills. They offer the flexibility to practice more than fact and operation skills. She also could be practicing money exchange, logic, geometric intuition, shopping skills, probability and chance intuition. Because most games involve generating numbers randomly, they can be played over and over without repeating the same problems. This randomness increases the opportunity for her to practice all the facts, not just the ones she knows.

Q: Why is my child using a calculator? Will he become dependent on the calculator for solving problems?

A: Your child uses a calculator to learn concepts, recognize patterns, develop estimation skills, and explore problem solving. However, a calculator does not replace the need to learn basic facts, to compute mentally, and to do paper-and-pencil computation. He learns when a calculator can help solve problems beyond his current paper-and-pencil capabilities. On the other hand, he also learns that in some situations, he can rely on his own problem-solving power to get an answer more quickly. Your child also uses basic fact and operations knowledge and estimation skills to determine whether the calculator's solution is reasonable. He becomes comfortable with the calculator as one technological tool.

Q: How can I get involved? How can I reinforce my child's mathematics learning at home?

A: Communicate with your child's teacher on a regular basis. If possible, volunteer to help with Explorations or Projects. Attend school functions, such as Math Night, planned to inform you about Everyday Mathematics and your child's progress. At home, talk with your child about real-life situations that involve mathematics, such as buying groceries or balancing the checkbook. Ask your child to "teach" you the mathematics lessons he is learning, including favorite games and creative solution strategies.